WHAT IS CLAIMED IS:

1. An image input apparatus comprising:

an image pickup unit which optically scans a subject and thereby successively acquires plural images of the subject that are partial images of the subject having overlapping portions, wherein said image pickup unit obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

a relative change detection unit which detects an amount of relative change in position or speed of said image pickup unit between a time when a previous partial image was taken and a time when a current partial image is being taken;

an overlapping amount calculating unit which calculates an amount of overlap between the previous partial image and the current partial image based upon the amount of relative change in position or speed detected by said relative change detection unit; and

an image recording determination unit which determines whether or not the current partial image is to be recorded based upon the amount of overlap calculated by said overlapping amount calculating unit.

2. The image input apparatus according to claim 1, further comprising:

a distance detection unit which detects a distance between the subject and said image pickup unit,

wherein said overlapping amount detection unit calculate the amount of overlap between the partial images based an information including the distance detected by said distance detection unit.

3. The image input apparatus according to claim 1, further comprising:

an inclination detection unit which detects inclination of the subject,

wherein said overlapping amount detection unit calculate the amount of overlap between the partial images based on an information including the inclination detected by said inclination detection unit.

4. The image input apparatus according to claim 1, further comprising:

a timer which counts time that has elapsed time from when the previous partial image was acquired,

wherein said image recording determination unit determines whether or not the current partial images can be recorded based on an information including the time

counted by said timer.

5. The image input apparatus according to claim 1, wherein said image recording determination unit stops acquiring the images when the amount of shift of said image pickup unit is greater than a desired value.

6. The image input apparatus according to claim 1, further comprising an image composing unit which composes all or a portion of the partial images of the subject to obtain a single image.

7. An image input apparatus comprising:

an image pickup unit which optically scans a subject and thereby successively acquires plural images of the subject that are partial images of the subject having overlapping portions, wherein said image pickup unit obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

an angle detection unit which detects a change in angle of the image pickup unit based upon rotation angular velocities around two axes that are virtually parallel with an optic axis of said image pickup unit and mutually perpendicular to each to other between a time when a previous partial image was taken and a time when a current partial

image is being taken;

an overlapping amount calculating unit which calculates an amount of overlap between the previous partial image and the current partial image based upon the change in angles detected by said angle detection unit; and

an image recording determination unit which determines whether or not the current partial image is to be recorded based upon the amount of overlap calculated by said overlapping amount calculating unit.

8. The image input apparatus according to claim 7, further comprising:

a distance detection unit which detects a distance between the subject and said image pickup unit,

wherein said overlapping amount detection unit calculate the amount of overlap between the partial images based an information including the distance detected by said distance detection unit.

9. The image input apparatus according to claim 7, further comprising:

an inclination detection unit which detects inclination of the subject,

wherein said overlapping amount detection unit calculate the amount of overlap between the partial images

based on an information including the inclination detected by said inclination detection unit.

10. The image input apparatus according to claim 7, further comprising:

a timer which counts time that has elapsed time from when the previous partial image was acquired,

wherein said image recording determination unit determines whether or not the current partial images can be recorded based on an information including the time counted by said timer.

11. The image input apparatus according to claim 7, wherein said image recording determination unit stops acquiring the images when the amount of shift of said image pickup unit is greater than a desired value.

12. The image input apparatus according to claim 7, further comprising an image composing unit which composes all or a portion of the partial images of the subject to obtain a single image.

13. An image input apparatus comprising:

an image pickup unit which optically scans a subject and thereby successively acquires plural images of the

subject that are partial images of the subject having overlapping portions, wherein said image pickup unit obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

an orientation detection unit which detects an orientation of the image pickup unit based upon rotation angular velocities around two axes that are virtually parallel with an optic axis of said image pickup unit and mutually perpendicular to each to other between a time when a previous partial image was taken and a time when a current partial image is being taken;

a relative change detection unit which detects an amount of relative change in position or speed of the image pickup unit between a time when a previous partial image was taken and a time when a current partial image is being taken;

an overlapping amount calculating unit which calculates an amount of overlap between the partial images taken at the previous input time and the partial images taken at the current input time based upon the amount of relative change in position or speed detected by said relative change detection unit and the orientation detected by the orientation detection unit; and

an image recording determination unit which determines whether or not the current partial image is to be recorded

based upon the amount of overlap calculated by said overlapping amount calculating unit.

14. The image input apparatus according to claim 13, further comprising:

a distance detection unit which detects a distance between the subject and said image pickup unit,

wherein said overlapping amount detection unit calculate the amount of overlap between the partial images based an information including the distance detected by said distance detection unit.

15. The image input apparatus according to claim 13, further comprising:

an inclination detection unit which detects inclination of the subject,

wherein said overlapping amount detection unit calculate the amount of overlap between the partial images based on an information including the inclination detected by said inclination detection unit.

16. The image input apparatus according to claim 13, further comprising:

a timer which counts time that has elapsed time from when the previous partial image was acquired,

wherein said image recording determination unit determines whether or not the current partial images can be recorded based on an information including the time counted by said timer.

17. The image input apparatus according to claim 13, wherein said image recording determination unit stops acquiring the images when the amount of shift of said image pickup unit is greater than a desired value.

18. The image input apparatus according to claim 13, further comprising an image composing unit which composes all or a portion of the partial images of the subject to obtain a single image.

19. An image input apparatus comprising:

an image pickup unit which optically scans a subject and thereby successively acquires plural images of the subject that are partial images of the subject having overlapping portions, wherein said image pickup unit obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

a plurality of line sensors each of which detects an amount of shift of said image pickup unit in the horizontal direction and in the vertical direction;

an overlapping amount calculating unit which determines an amount of shift from input waveforms of the line sensors between the previous partial image and the current partial image, and calculates an amount of overlap between the previous partial image and the current partial image based upon the amount of shift; and

an image recording determination unit which determines whether or not the current partial image is to be recorded based upon the amount of overlap calculated by said overlapping amount calculating unit.

20. The image input apparatus according to claim 19, further comprising:

a timer which counts time that has elapsed time from when the previous partial image was acquired,

wherein said image recording determination unit determines whether or not the current partial images can be recorded based on an information including the time counted by said timer.

21. The image input apparatus according to claim 19, wherein said image recording determination unit stops acquiring the images when the amount of shift of said image pickup unit is greater than a desired value.

22. The image input apparatus according to claim 19, further comprising an image composing unit which composes all or a portion of the partial images of the subject to obtain a single image.

23. An image input apparatus comprising:

a first image pickup unit which optically scans a subject and thereby acquires plural images of the subject that are partial images of the subject, wherein said image pickup unit obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

a second image pickup unit which continuously picks up the image that is being scanned;

an overlapping amount calculating unit which calculates an amount of overlap between the partial images picked up by said first image pickup unit based upon the image picked up by said second image pickup unit; and

an image recording determination unit which determines whether or not the current partial image is to be recorded based upon the amount of overlap calculated by the overlapping amount calculating unit.

24. The image input apparatus according to claim 23, further comprising:

a timer which counts time that has elapsed time from when the previous partial image was acquired,

wherein said image recording determination unit determines whether or not the current partial images can be recorded based on an information including the time counted by said timer.

25. The image input apparatus according to claim 23, wherein said image recording determination unit stops acquiring the images when the amount of shift of said image pickup unit is greater than a desired value.

26. The image input apparatus according to claim 23, further comprising an image composing unit which composes all or a portion of the partial images of the subject to obtain a single image.

27. An image input apparatus comprising:

an image pickup unit which optically scans a subject and thereby successively acquires plural images of the subject that are partial images of the subject having overlapping portions, wherein said image pickup unit obtains the partial images by moving in a plane that is parallel

to a plane of the subject and without touching the subject;

a timer which counts time that has elapsed time from when the previous partial image was acquired; and

an image recording determination unit which determines whether or not the current partial image is to be recorded based on the time counted by the timer.

28. The image input apparatus according to claim 27, wherein said image recording determination unit determines that the current image is not to be recorded when the amount of shift of said image pickup unit is greater than a predetermine value.

29. The image input apparatus according to claim 27, further comprising an image composing unit which composes all or a portion of the partial images of the subject to obtain a single image.

30. An image input method comprising:

an image pickup step for optically scanning a subject and thereby successively acquires plural images of the subject that are partial images of the subject having overlapping portions, wherein said image pickup step obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

a relative change detection step for detecting an amount of relative change in position or speed of said image pickup step between a time when a previous partial image was taken and a time when a current partial image is being taken;

an overlapping amount calculating step for calculating an amount of overlap between the previous partial image and the current partial image based upon the amount of relative change in position or speed detected by said relative change detection step; and

an image recording determination step for determining whether or not the current partial image is to be recorded based upon the amount of overlap calculated by said overlapping amount calculating step.

31. An image input method comprising:

an image pickup step for optically scanning a subject and thereby successively acquires plural images of the

subject that are partial images of the subject having overlapping portions, wherein said image pickup step obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

an angle detection step for detecting a change in angle of the image pickup step based upon rotation angular velocities around two axes that are virtually parallel with an optic axis of said image pickup step and mutually perpendicular to each to other between a time when a previous partial image was taken and a time when a current partial image is being taken;

an overlapping amount calculating step for calculating an amount of overlap between the previous partial image and the current partial image based upon the change in angles detected by said angle detection step; and

an image recording determination step for determining whether or not the current partial image is to be recorded based upon the amount of overlap calculated by said overlapping amount calculating step.

32. An image input method comprising:

an image pickup step for optically scanning a subject and thereby successively acquires plural images of the subject that are partial images of the subject having

overlapping portions, wherein said image pickup step obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

an orientation detection step for detecting an orientation of the image pickup step based upon rotation angular velocities around two axes that are virtually parallel with an optic axis of said image pickup step and mutually perpendicular to each to other between a time when a previous partial image was taken and a time when a current partial image is being taken;

a relative change detection step for detecting an amount of relative change in position or speed of the image pickup step between a time when a previous partial image was taken and a time when a current partial image is being taken;

an overlapping amount calculating step for calculating an amount of overlap between the partial images taken at the previous input time and the partial images taken at the current input time based upon the amount of relative change in position or speed detected by said relative change detection step and the orientation detected by the orientation detection step; and

an image recording determination step for determining whether or not the current partial image is to be recorded based upon the amount of overlap calculated by said

overlapping amount calculating step.

33. An image input method comprising:

an image pickup step for optically scanning a subject and thereby successively acquires plural images of the subject that are partial images of the subject having overlapping portions, wherein said image pickup step obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

a detecting step for detecting an amount of shift of said image pickup step in the horizontal direction and in the vertical direction;

an overlapping amount calculating step for determining an amount of shift from input waveforms of the line sensors between the previous partial image and the current partial image, and calculates an amount of overlap between the previous partial image and the current partial image based upon the amount of shift; and

an image recording determination step for determining whether or not the current partial image is to be recorded based upon the amount of overlap calculated by said overlapping amount calculating step.

34. An image input method comprising:

a first image pickup step for optically scanning a subject and thereby acquires plural images of the subject that are partial images of the subject, wherein said image pickup step obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

a second image pickup step for continuously picking up the image that is being scanned;

an overlapping amount calculating step for calculating an amount of overlap between the partial images picked up by said first image pickup step based upon the image picked up by said second image pickup step; and

an image recording determination step for determining whether or not the current partial image is to be recorded based upon the amount of overlap calculated by the overlapping amount calculating step.

35. An image input method comprising:

an image pickup step for optically scanning a subject and thereby successively acquires plural images of the subject that are partial images of the subject having overlapping portions, wherein said image pickup step obtains the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;

a counting step for counting time that has elapsed time from when the previous partial image was acquired; and

an image recording determination step for determining whether or not the current partial image is to be recorded based on the time counted by said counting step.